APPLICANT(S):   AVNI, Dov et al.
SERIAL NO.:   10/551,053
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REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Applicants assert that the present invention is new, non-obvious and useful. Favorable reconsideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 81-99 are currently pending in the Application. Claims 86-89 and 92-96 have been withdrawn from consideration. Claims 81, 90, 97 and 100 have been amended in order to clarify what the Applicants consider to be the invention.

Applicants respectfully assert that no new matter has been added.

Telephone Interview

Examiner Joel Brutus discussed the Application in a telephone call with Yamima Eadan, Reg. No. 64,764, on August 13, 2009. The Examiner stated that an Abstract has been entered in this case and that Applicants may disregard the issues raised in the section entitled Specification on page 3 of the Office Action.

Response to Restriction / Election Requirement

In the Office Action, the Examiner requires that Applicants elect of one of the following groups of claims:

        I: Claims 81-85, 90-91, and 97-100; and

        II: Claims 86-89 and 92-96.

Applicants elect, without traverse, Group I corresponding to claims 81-85, 90-91, and 97-100.

Applicants reserve all rights in the non-elected inventions, and the claims which read thereon, to file divisional and/or continuation patent applications.

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 81-85 and 90-91 under 35 U.S.C. § 103(a), as being unpatentable over Nagasaki et al. (US Patent No. 4,631,582) in view of Alfano et al. (US Patent No. 6,240,312) and claims 97-100 under 35 U.S.C. § 103(a), as being unpatentable over Nagasaki et al. in view of Alfano et al. and further in view of Iddan et al. (US Patent No. 5,604,531).

Applicants respectfully traverse the rejections of claims 81-85, 90-91, and 97-100 under 35 U.S.C. § 103(a) in view of the remarks that follow.

Independent claim 81 includes, inter alia, "a controller, wherein the controller is to, during an imaging period, operate the light source to emit white light, record the amount of the white light that is reflected to the imaging device, and control the image gain level of the imager based on the amount of the white light that is reflected to the imaging device."

Independent claim 90 includes, *inter alia*, "operating at least one light source to emit white light; … recording the amount of the white light that is reflected …; and comparing an amount of the white light recorded at at least one sampling instance within said imaging period to a determined light saturation threshold; and controlling the imaging device's gain factor in relation to the difference between said recorded amount of the white light that is reflected to the imaging device and said light saturation threshold."

Each of amended independent claims 97 and 100 include different limitations than those described above. For the purposes of the arguments below, claims 97 and 100 include limitations similar to those discussed above.

Applicants respectfully assert that Nagasaki et al. does not teach at least the aforementioned features.

Applicants' claims describe emitting white light, and receiving a reflection based on that light (the reflection is a reflection of white light reflected from features which may be colored). Nagasaki, in contrast describes shining, successively, blue, green and red light, and receiving a reflection of each.

Nagasaki et al. teaches "illuminating light passes through a 3-color rotary filter 32" (col. 4 lines 32-33) and "rotary filter 32 … [transmits] blue light, green light and red light of

the white light from the light source section 12', respectively" (col. 5 lines 28-31). "The reflected light from the subject corresponding to the repetition of each [blue, green or red] period is incident upon the light receiving surface of the CCD 4'," (col. 5 lines 45-47). Thus, the image pick-up means (e.g., CCD 4') of Nagasaki et al. records, separately, light reflected from red, green and blue light during each of the respective red, green and blue light illumination periods. Accordingly, Nagasaki et al. does not teach recording the amount of the white light that is reflected to the device, as required in each of Applicants' independent claims 81, 90, 97 and 100.

The aforementioned claim features further are distinguishable over the gain controlling means 22 of Nagasaki et al. Nagasaki et al. describes "The signals at intersections Q_G, Q_R and Q_B [i.e., associated with light reflected from the green, red, and blue signals, respectively] are supplied to analog switch 42. ... The signal selected by analog switch 42 is supplied to the first input of second comparator amplifier 44" (col. 5 lines 14-19). As shown in Fig. 2, analog switch 42 "selects" the green, red, or blue signal by moving a switch to complete a circuit with one of intersection points Q_G, Q_R, or Q_B, respectively. The analog switch 42 can only complete a circuit with one of the intersection points Q_G, Q_R, or Q_B, at a time and therefore can only process signals associated with light reflected from one of the green, red, and blue signals at a time. In Fig. 2, analog switch 42 completes a circuit with intersection point, Q_G, to "select" the green signal. The second comparator amplifier 44 then compares the selected one of the green, red, *or* blue signal, to a reference voltage Vr2 to control the gain level/factor. Accordingly, Nagasaki et al. does not teach controlling the image gain level/factor of the imager in response to or based on a recorded amount of the white light emitted, which is reflected to the device, as required in each of Applicants' independent claims 81, 90, and 97.

In one embodiment, the system and method of Applicants' claims is simpler than that of Nagasaki, and is used for a different purpose. An embodiment of the presently claimed invention may provide gain control of an overall signal, and may allow better use of the digital range of the circuits. Nagasaki adjusts color balance.

Each of claims 82-85, 91, and 98-99 depends from, directly or indirectly, one of claims 81, 90, and 97, and includes all the limitations thereof. Therefore, each of claims 82-

85, 91, and 98-99 is likewise allowable over Nagasaki et al. Applicants respectfully assert that the addition of Alfano et al. and Iddan et al. does not cure the deficiencies of Nagasaki et al. In addition, Iddan does not teach "measuring at least one environment parameter ... and when an environmental change is determined, changing the operating mode of the device".

Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. §103(a) of claims 81-85, 90-91, and 97-100 be withdrawn.
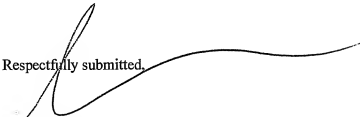
Conclusion

In view of the foregoing amendments and remarks, Applicants assert that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this paper, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

No fees are believed to be due in connection with this paper. However, if any such fees are due, please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,

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